

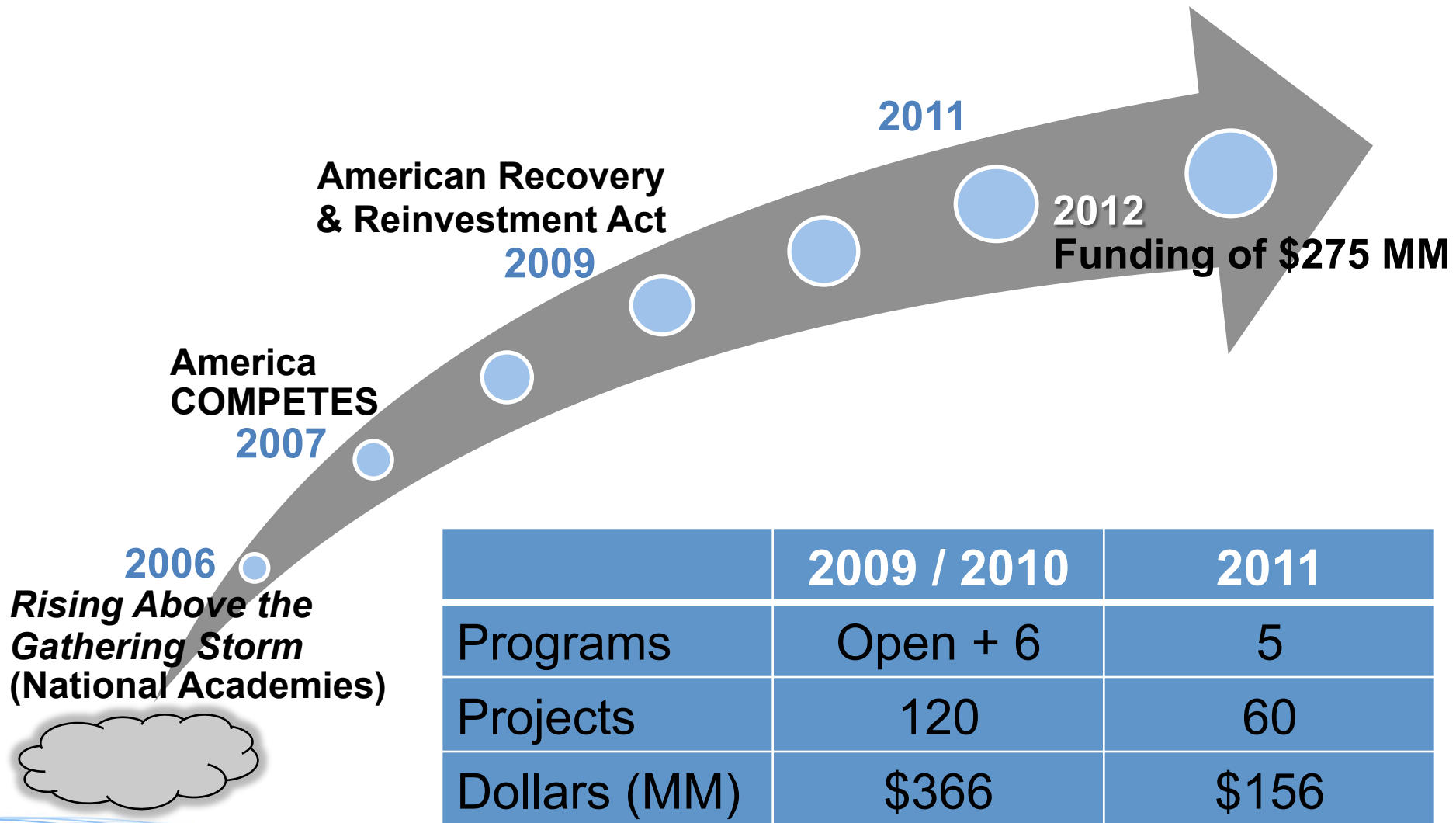
Introduction to ARPA-E

Emerging Ideas Workshops

March 26-30, 2012



Evolution of ARPA-E



	2009 / 2010	2011
Programs	Open + 6	5
Projects	120	60
Dollars (MM)	\$366	\$156

Mission

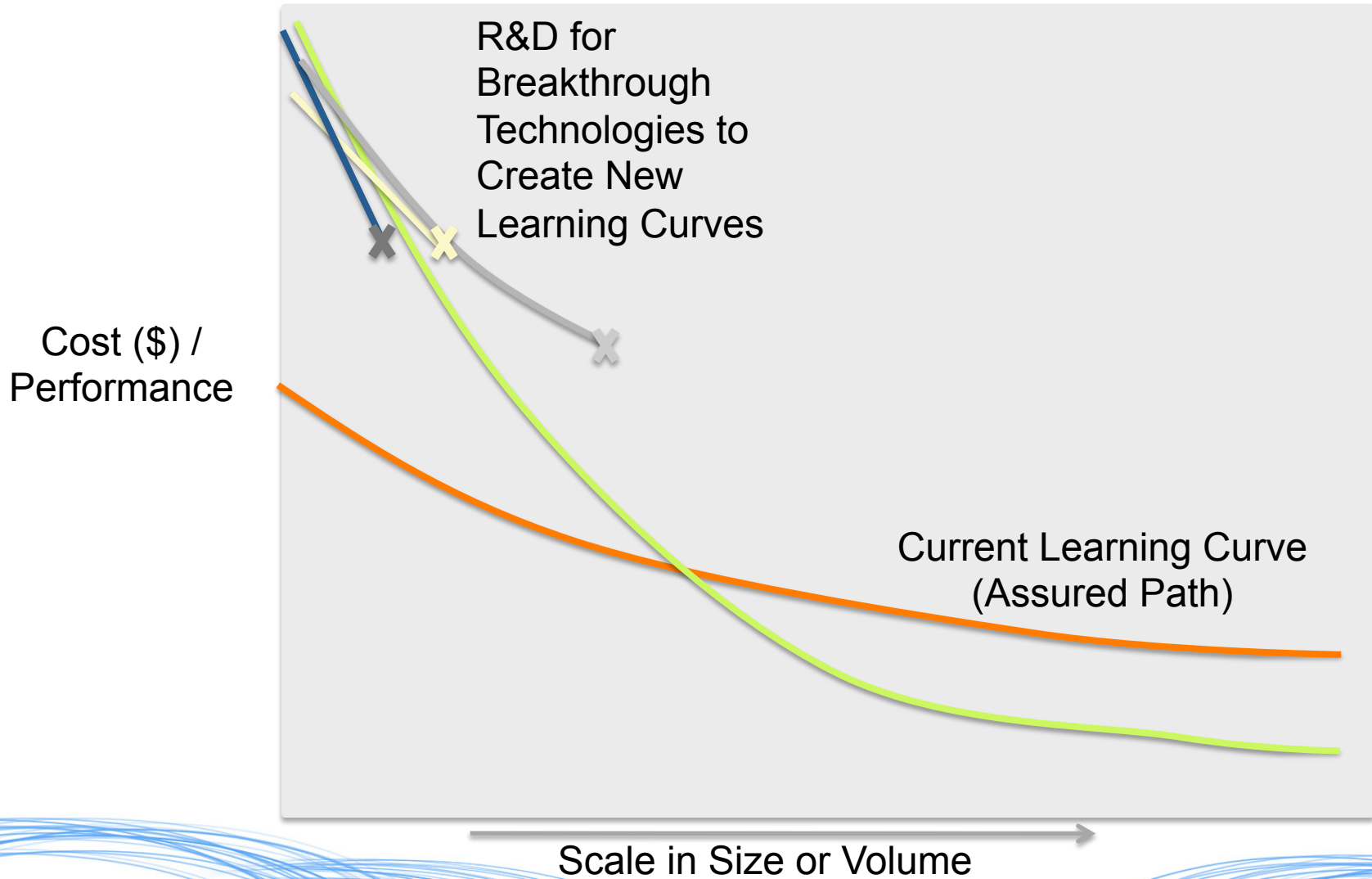


To enhance the economic and energy security of the U.S.

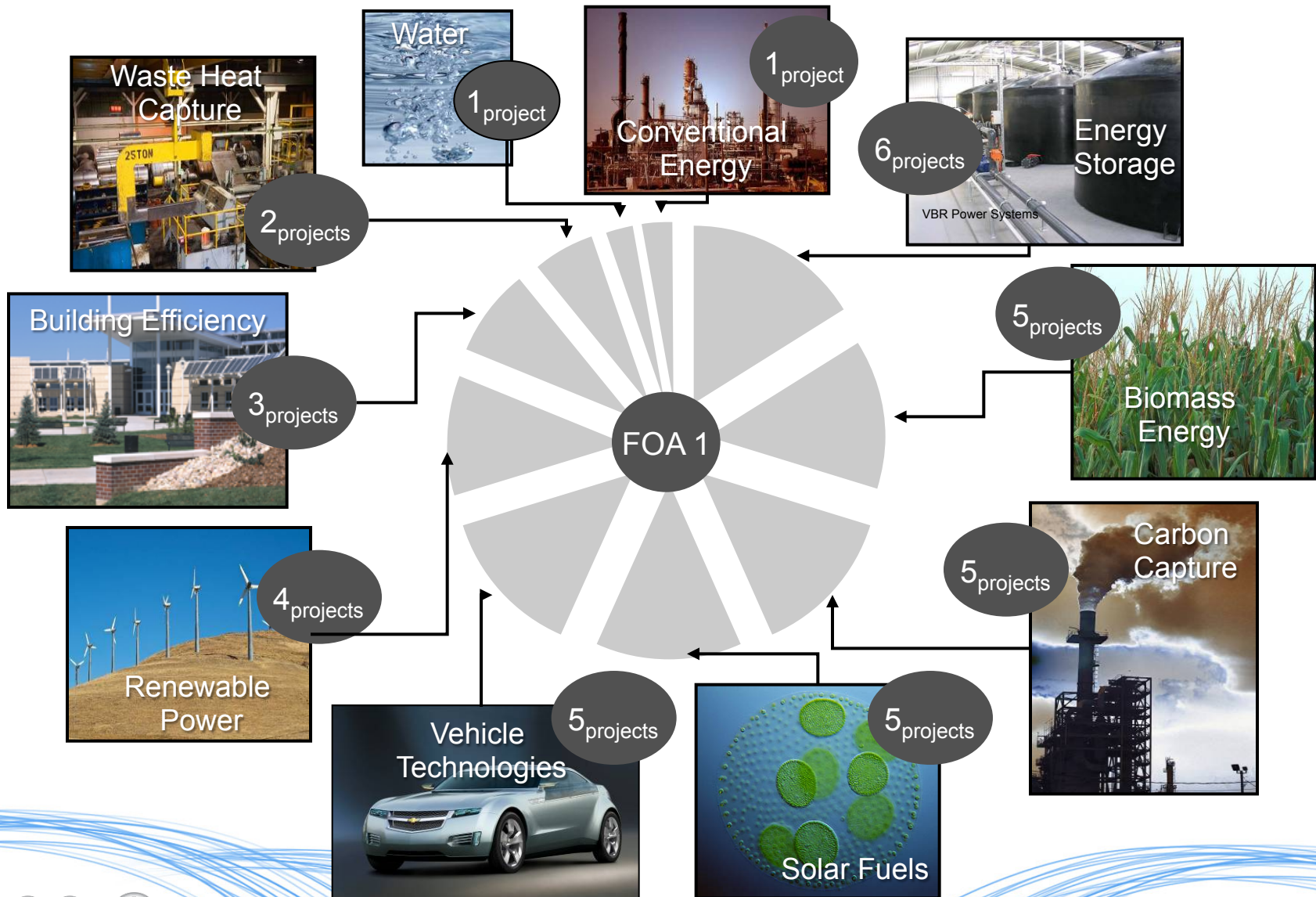
To ensure U.S. technological lead in developing and deploying advanced energy technologies

Advanced Transformative Technologies

Creating New Learning Curves



10 Technology Areas within First Open FOA



11 Focused Programs

Transportation

Electrofuels



BEEST



PETRO

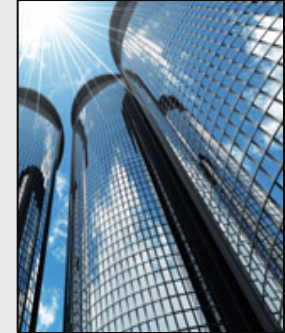


End-Use Efficiency

HEATS



BEETIT



Stationary Power

IMPACCT



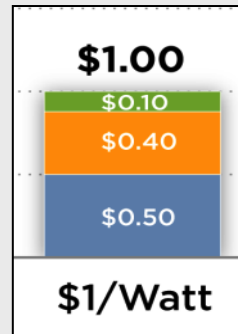
ADEPT



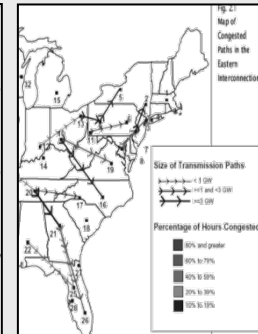
GRIDS



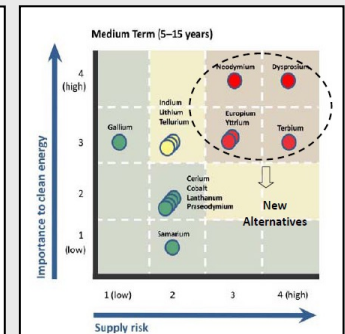
Solar ADEPT



GENI



REACT



What makes an ARPA-E project?

1. Impact

- High impact on ARPA-E mission areas
- Credible path to market
- Large commercial application

2. Transform

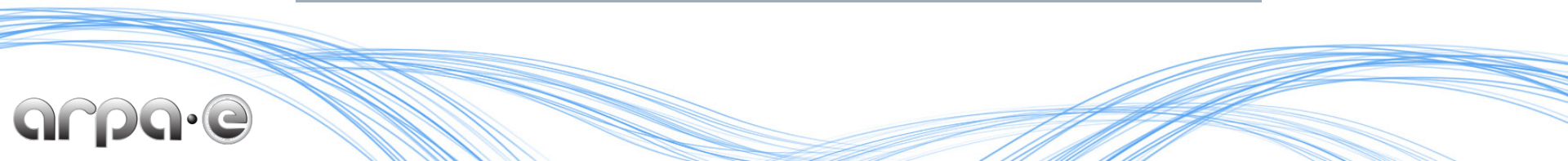
- Challenges what is possible
- Disrupts existing learning curves
- Leaps beyond today's technologies

3. Bridge

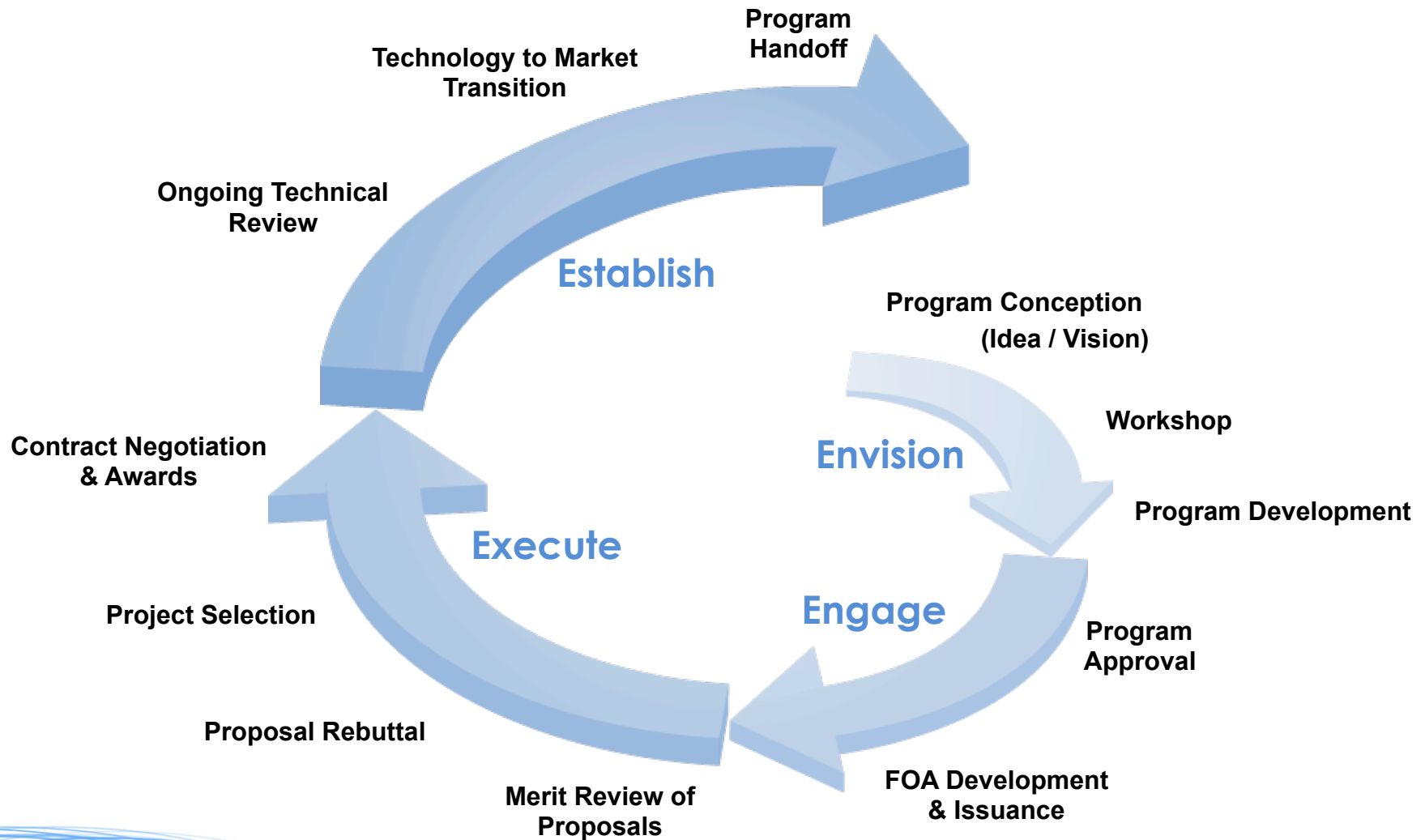
- Translate science into breakthrough technology
- Not researched or funded elsewhere
- Catalyzes new interest and investment

4. Team

- Best-in-class people
- Cross-disciplinary skill sets
- Translation oriented



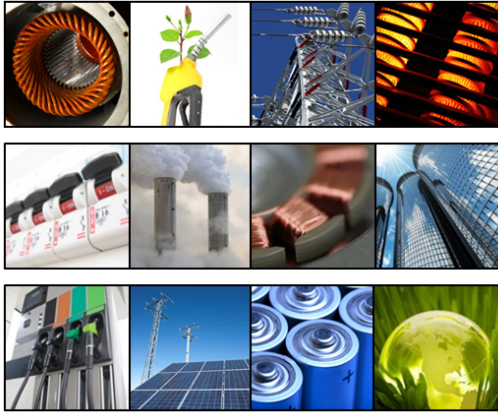
Program Development Cycle



Emerging Ideas Workshops

Day	Mini-Workshop	Location
Mar 26	PHOTON High-efficiency, high-concentration PV	Virginia Square
Mar 27	TOPHAT High-temperature topping cycles	Virginia Square
Mar 27	MICROBES New bioreactors for algae and Electrofuels	ARPA-E
Mar 28	RACE Fast charging of EV batteries	ARPA-E
Mar 28	ICEPOP Low water or no-water power plant cooling	ARPA-E
Mar 29	SNIFFER Remote methane detection	ARPA-E
Mar 30	PROPHET Advanced forecasting of wind/solar	Virginia Square

Distinction: Emerging Ideas Workshops vs. Typical ARPA-E Workshops/FOAs



Typical Workshop/FOA

- Thematically related topics
- Workshops: 50-100 people
- Each with individual program
- Program funding is \$30 – \$50 million
- Consists of 10-20 projects



Emerging Ideas Workshops

- Funding amount/mechanism undetermined
- Workshops: 10-40 people
- Ideas across areas compete with each other
- Best topics may go into a combined solicitation
- Best proposals of any topic are selected
- Topics may lead to a larger future program

2012 FOAs & RFIs

Funding Opportunity Announcement (FOA)

- Open FOA Opportunity Announcement (**OPEN FOA**)
- Announcement of Teaming Partner List for Advanced Management and Protection of Energy-storage Devices (**AMPED**)

Requests for Information (RFIs)

- Electrofuels Phase II

